Drawings - Sheet 1 of 35 3883.0005 Invention: VOLTAGE TESTING AND MEASUREMENT

Concurrently herewith Attorney: Kevin L. Russell, Reg. No. 38,292

Inventors: Pfaff, et al.

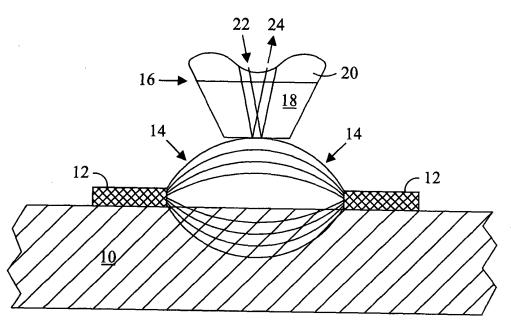


FIG. 1

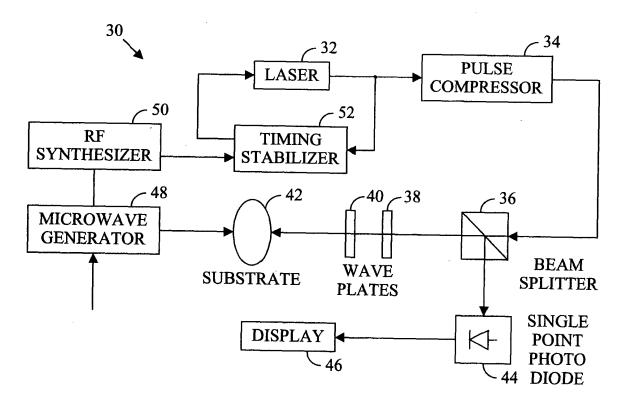


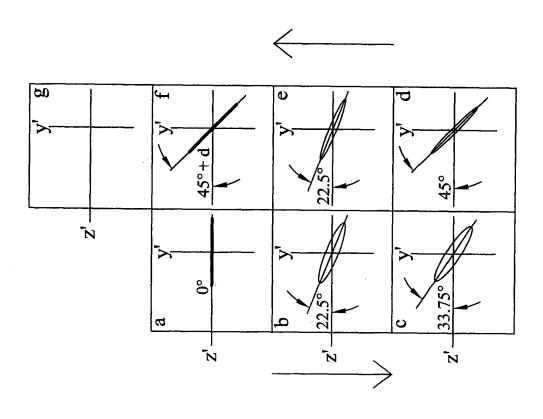
FIG. 2

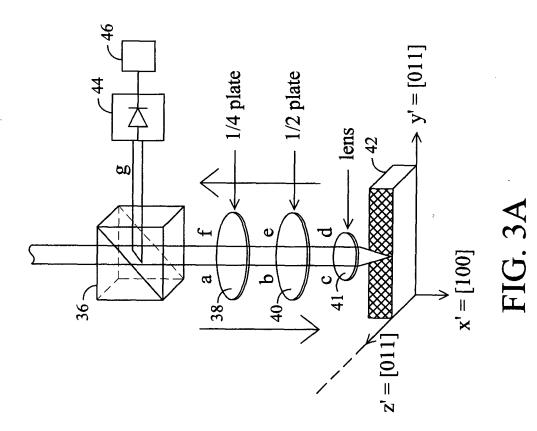
Drawings - Sheet 2 of 35 3883.0005 Invention: VOLTAGE TESTING AND MEASUREMENT

Filed:

Concurrently herewith Attorney: Kevin L. Russell, Reg. No. 38,292

Pfaff, et al. Telephone: (503) 227-5631 Inventors:





Drawings - Sheet 3 of 35 3883.0005 Invention: VOLTAGE TESTING AND MEASUREMENT

Concurrently herewith Attorney:

Kevin L. Russell, Reg. No. 38,292

inventors:

Pfaff, et al.

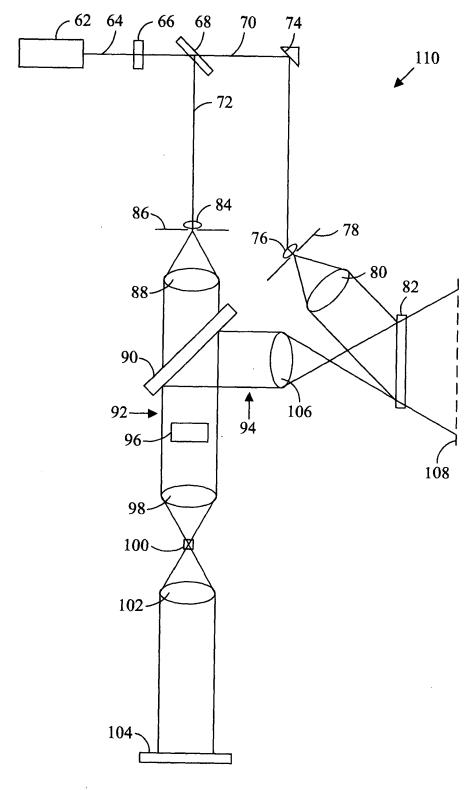
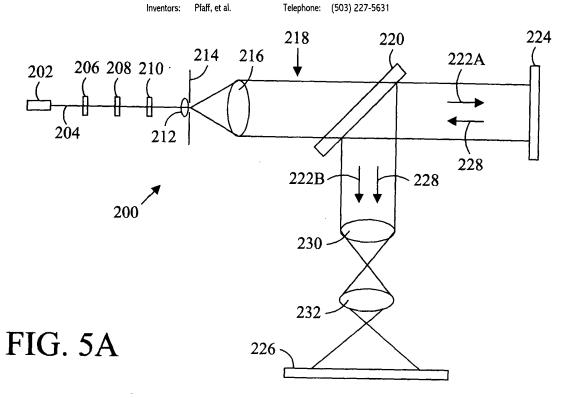


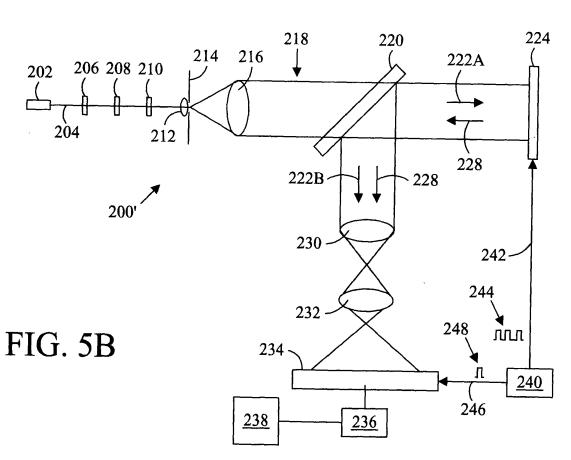
FIG. 4

Drawings - Sheet 4 of 35 3883.0005 Invention: VOLTAGE TESTING AND MEASUREMENT

Filed:

Concurrently herewith Attorney: Kevin L. Russell, Reg. No. 38,292





Drawings - Sheet 5 of 35 3883.0005 Invention: VOLTAGE TESTING AND MEASUREMENT

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Concurrently herewith Attorney: Kevin L. Russell, Reg. No. 38,292

Pfaff, et al. Telephone: (503) 227-5631 Inventors:

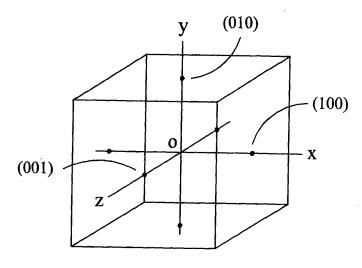


FIG. 6A

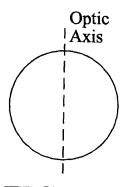


FIG. 6B

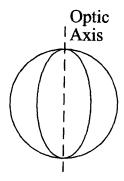


FIG. 6C

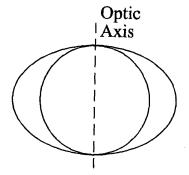


FIG. 6D

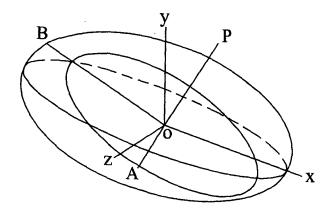


FIG. 6E

Drawings - Sheet 6 of 35 3883.0005 Invention: VOLTAGE TESTING AND MEASUREMENT

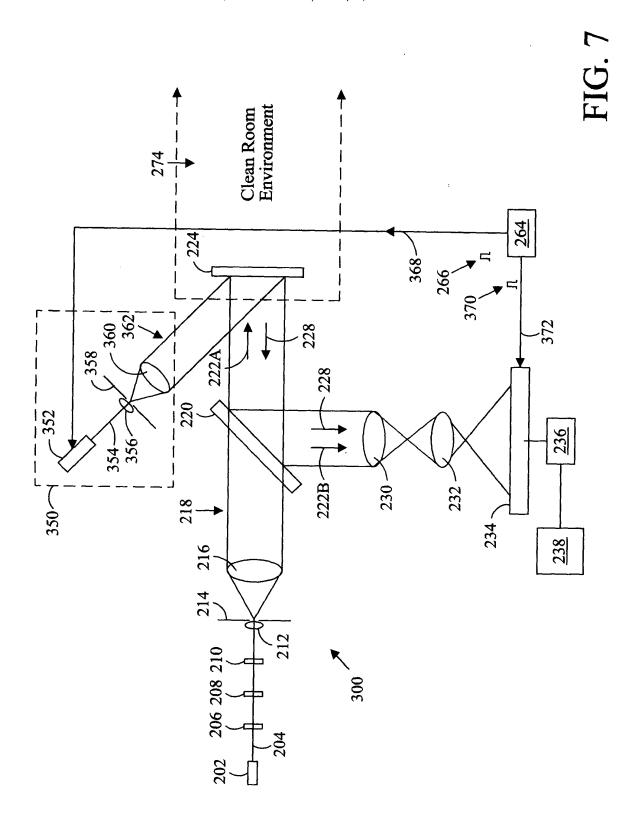
Filed: Concurrently herewith

ith Attorney:

Kevin L. Russell, Reg. No. 38,292

Inventors:

Pfaff, et al.



Drawings - Sheet 7 of 35 3883.0005 Invention: VOLTAGE TESTING AND MEASUREMENT

Filed: Concurr

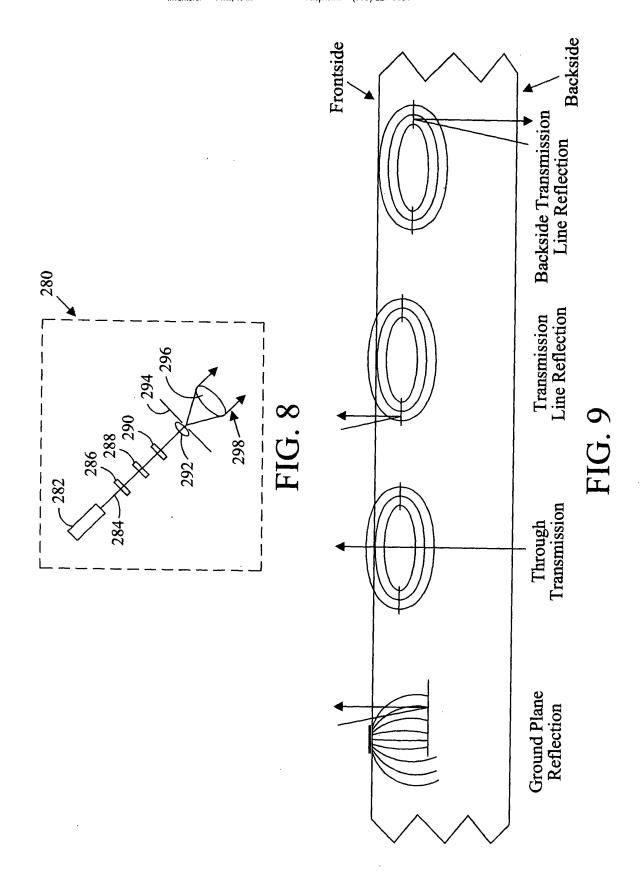
Concurrently herewith

Attorney:

Kevin L. Russell, Reg. No. 38,292

Inventors:

Pfaff, et al.



Drawings - Sheet 8 of 35 3883.0005 Invention: VOLTAGE TESTING AND MEASUREMENT

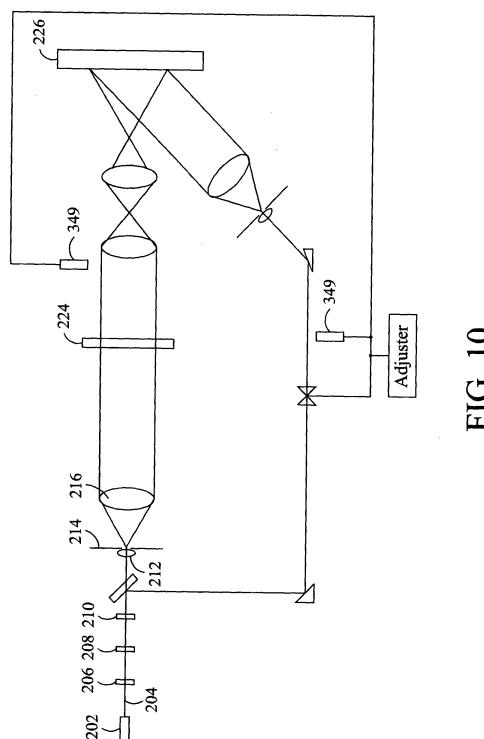
Filed: Concurrently herewith

Attorney:

Kevin L. Russell, Reg. No. 38,292

Inventors:

Pfaff, et al.



Pfaff, et al.

Filed:

Concurrently herewith Attorney: Kevin L. Russell, Reg. No. 38,292

Telephone: (503) 227-5631 Inventors:

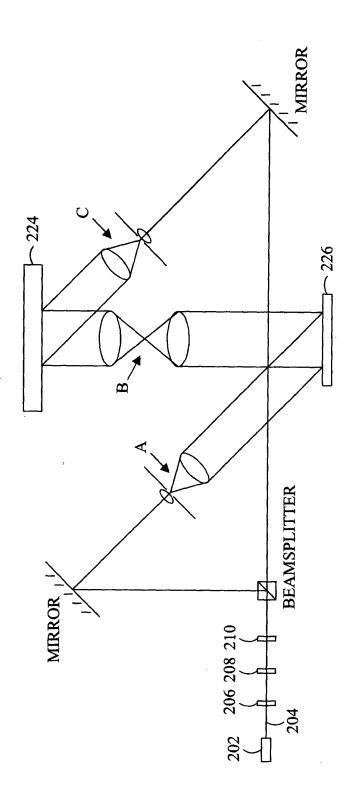
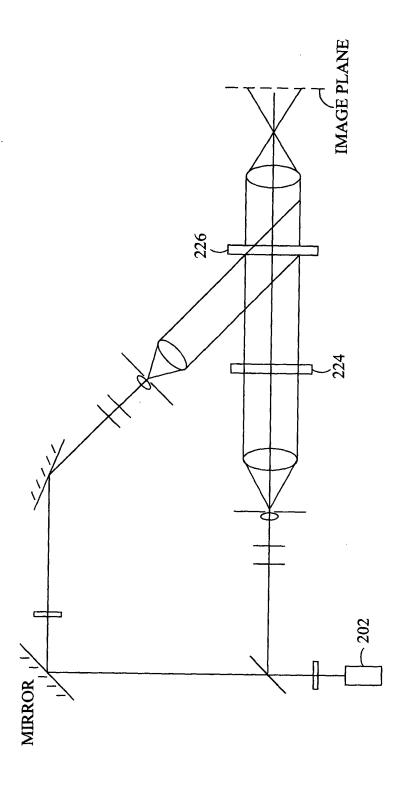


FIG. 11

Concurrently herewith Attorney: Kevin L. Russell, Reg. No. 38,292

Pfaff, et al. Telephone: (503) 227-5631 Inventors:



Drawings - Sheet 11 of 35 3883.0005 Invention: VOLTAGE TESTING AND MEASUREMENT

Concurrently herewith Attorney: Kevin L. Russell, Reg. No. 38,292

Pfaff, et al. Inventors:

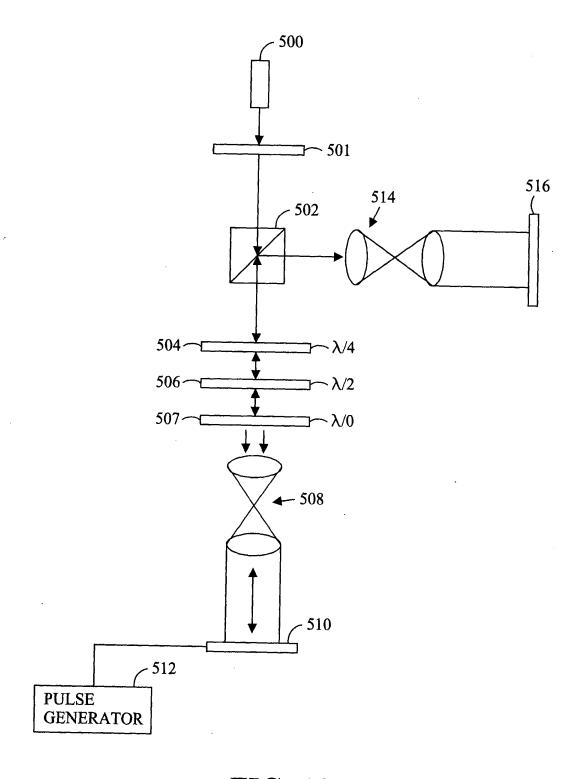


FIG. 13

Drawings - Sheet 12 of 35 3883.0005 Invention: VOLTAGE TESTING AND MEASUREMENT

Concurrently herewith Attorney: Kevin L. Russell, Reg. No. 38,292

Pfaff, et al. Inventors:

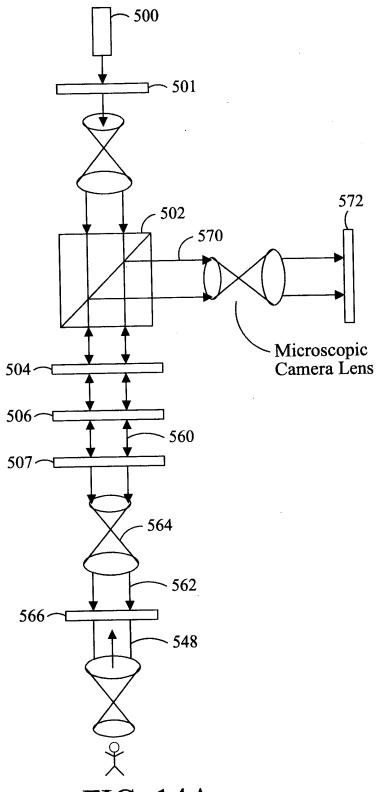


FIG. 14A

Drawings - Sheet 13 of 35 3883.0005 Invention: VOLTAGE TESTING AND MEASUREMENT

Concurrently herewith Attorney: Kevin L. Russell, Reg. No. 38,292

Pfaff, et al. Telephone: (503) 227-5631 Inventors:

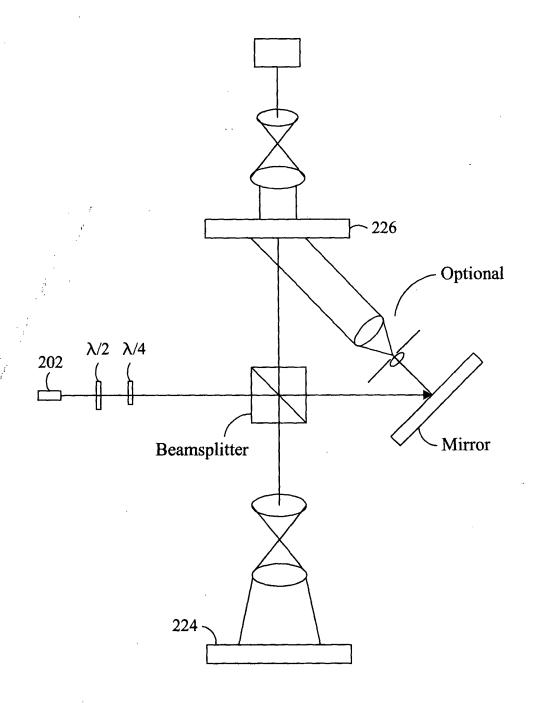


FIG. 14B

Concurrently herewith Attorney: Kevin L. Russell, Reg. No. 38,292

Pfaff, et al. Inventors:

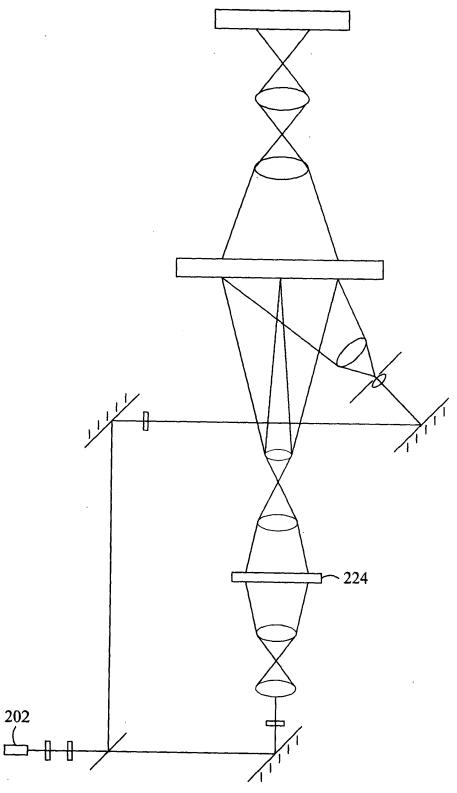


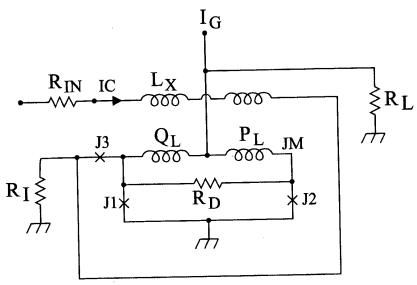
FIG. 14C

Drawings - Sheet 15 of 35 3883.0005 Invention: VOLTAGE TESTING AND MEASUREMENT

Filed:

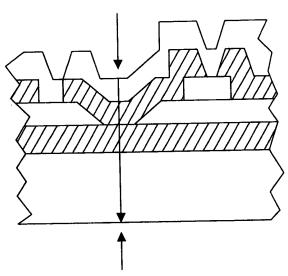
Concurrently herewith Attorney: Kevin L. Russell, Reg. No. 38,292

Telephone: (503) 227-5631 Pfaff, et al. Inventors:



Circuit of Refractory Josephson OR Gate

FIG. 15A



IC crosscut showing Josephson Gate/Junction and area of non-invasive Holographic microscopic inspection using arrangements disclosed.

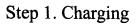
FIG. 15B

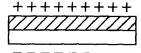
Drawings - Sheet 16 of 35 3883.0005 Invention: VOLTAGE TESTING AND MEASUREMENT

Filed:

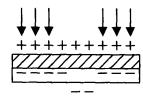
Concurrently herewith Attorney: Kevin L. Russell, Reg. No. 38,292

Telephone: (503) 227-5631

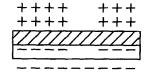




Step 2. Exposure



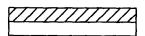
Step 3. Second Exposure



Step 4. Development



Step 5. Erasure



Record-erase cycle for an IR Thermoplastic recording material

FIG. 16

Drawings - Sheet 17 of 35 3883.0005 Invention: VOLTAGE TESTING AND MEASUREMENT

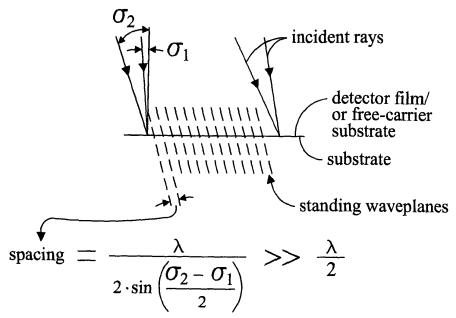
Filed:

Concurrently herewith Attorney: Kevin L. Russell, Reg. No. 38,292

Inventors:

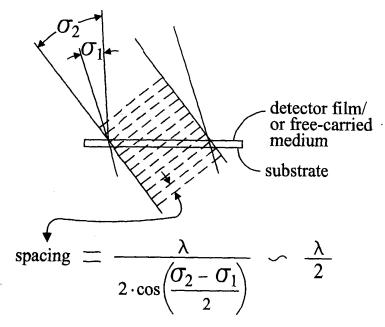
Pfaff, et al.

Telephone: (503) 227-5631



Conventional Method (single sided Hologram/Interferogram)

FIG. 16A



Double Sided Method (Holography/Interferogram)

FIG. 16B

Drawings - Sheet 18 of 35 3883.0005 Invention: VOLTAGE TESTING AND MEASUREMENT

Inventors:

Pfaff, et al.

Concurrently herewith Attorney: Kevin L. Russell, Reg. No. 38,292

Telephone: (503) 227-5631



FIG. 17

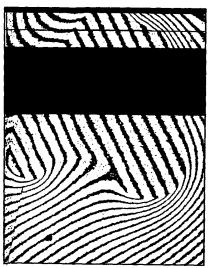


FIG. 18

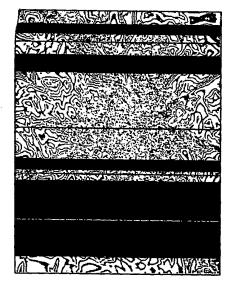


FIG. 19

Drawings - Sheet 19 of 35 3883.0005 Invention: VOLTAGE TESTING AND MEASUREMENT

Concurrently herewith Attorney: Kevin L. Russell, Reg. No. 38,292 Filed: Telephone: (503) 227-5631 Pfaff, et al. Inventors:

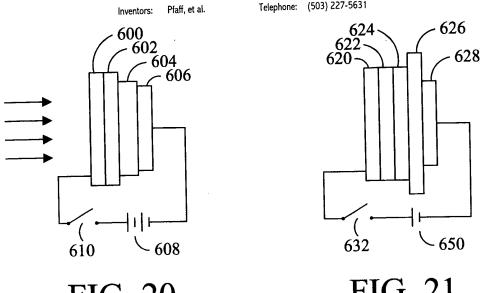


FIG. 20

FIG. 21

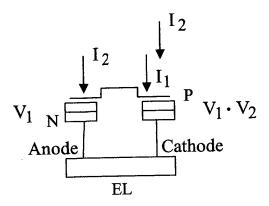
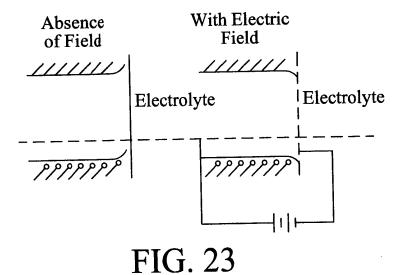


FIG. 22



Drawings - Sheet 20 of 35 3883.0005 Invention: VOLTAGE TESTING AND MEASUREMENT

Kevin L. Russell, Reg. No. 38,292 Concurrently herewith Attorney: Filed:

Telephone: (503) 227-5631 Pfaff, et al. Inventors: 682

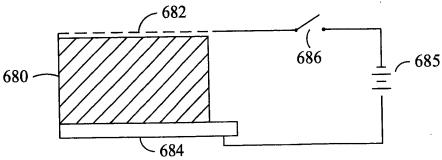
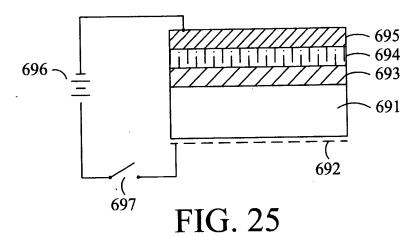


FIG. 24



902 900-904

FIG. 26A

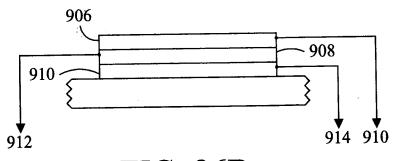


FIG. 26B

Concurrently herewith Attorney: Kevin L. Russell, Reg. No. 38,292

Pfaff, et al. Telephone: (503) 227-5631 Inventors:

Semiconductor layer and orientation thickness of P-N materials corresponds to standing waveplanes in single-sided free-carrier IR Holography

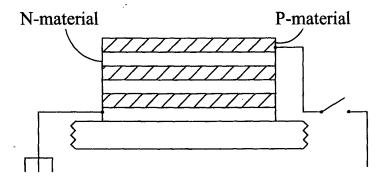


FIG. 27A

Semiconductor orientation and the column dimensions dimensions corresponds to standing waveplanes in double-sided free-carrier IR Holography (Refer to FIG. 16A and 16B as well as FIG. 27A)

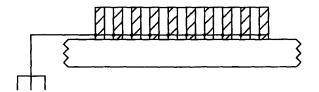


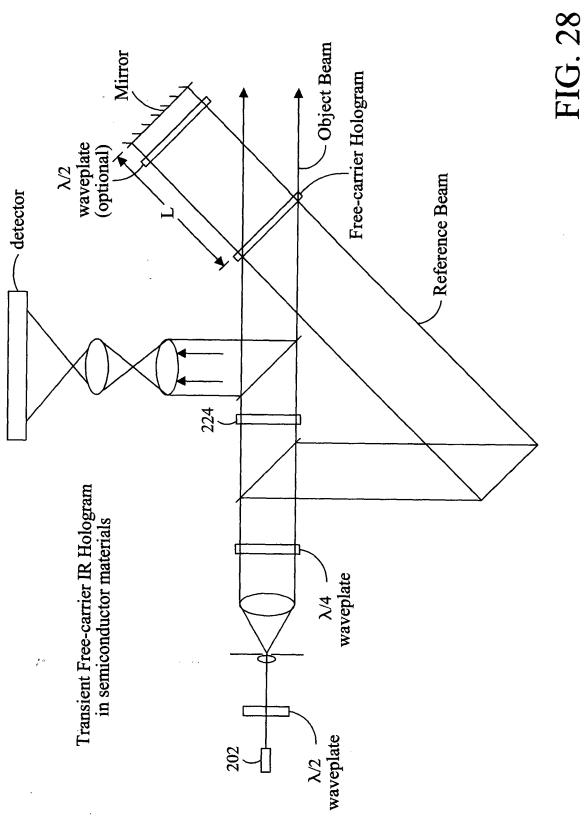
FIG. 27B

Concurrently herewith

Attorney:

Kevin L. Russell, Reg. No. 38,292

Inventors: Pfaff, et al. Telephone: (503) 227-5631



Concurrently herewith Attorney:

Kevin L. Russell, Reg. No. 38,292

inventors:

Pfaff, et al.

Telephone: (503) 227-5631

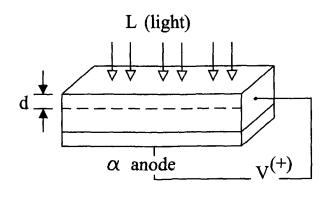


FIG. 29

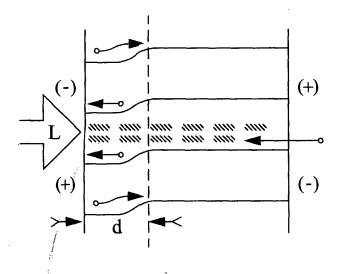


FIG. 30

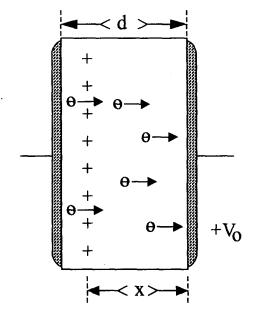


FIG. 31

Drawings - Sheet 24 of 35 3883.0005 Invention: VOLTAGE TESTING AND MEASUREMENT

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Concurrently herewith Attorney: Kevin L. Russell, Reg. No. 38,292

Inventors: Pfaff, et al.

Telephone: (503) 227-5631

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FIG. 32

Drawings - Sheet 25 of 35 3883.0005 Invention: VOLTAGE TESTING AND MEASUREMENT

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Concurrently herewith Attorney: Kevin L. Russell, Reg. No. 38,292

Inventors:

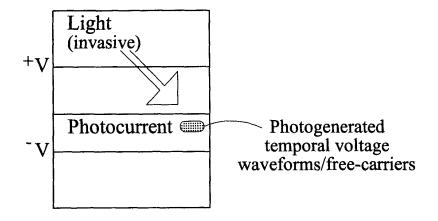


FIG. 33

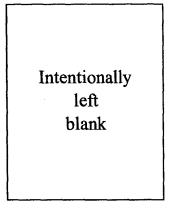


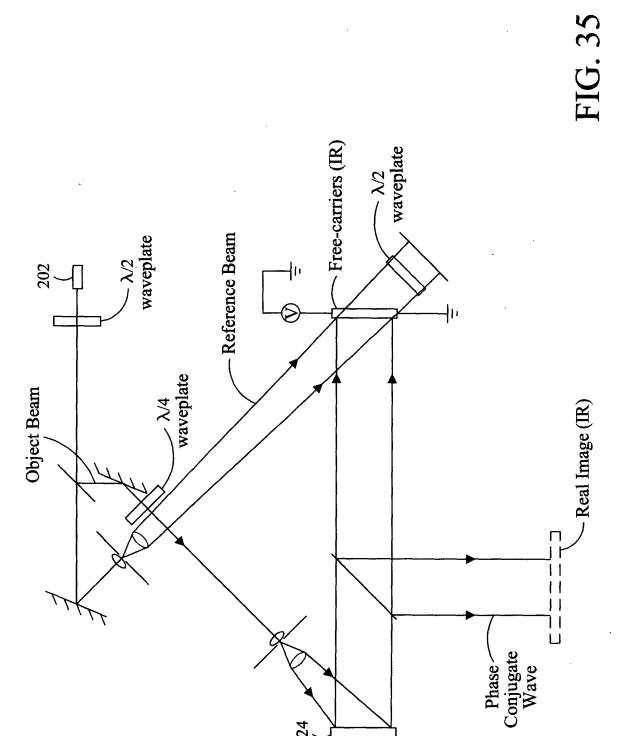
FIG. 34

Concurrently herewith

Attorney: Kevin L. Russell, Reg. No. 38,292

Inventors:

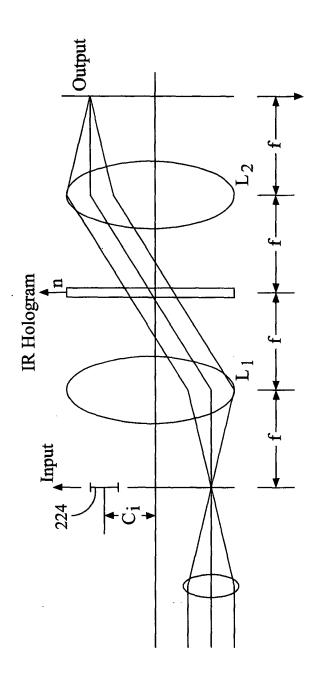
Pfaff, et al.



Concurrently herewith Attorney: Kevin L. Russell, Reg. No. 38,292

Inventors: Pfaff, et al. Telephone: (503) 227-5631





Drawings - Sheet 28 of 35 3883.0005 Invention: VOLTAGE TESTING AND MEASUREMENT

Filed:

Concurrently herewith Attorney: Kevin L. Russell, Reg. No. 38,292

Inventors:

Pfaff, et al.

Telephone: (503) 227-5631

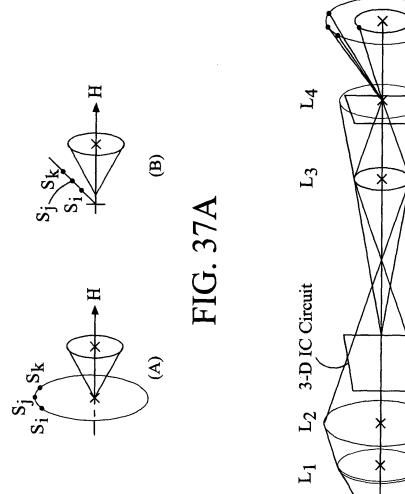


FIG. 37B

Sout

IR Hologram

Concurrently herewith

Attorney:

Kevin L. Russell, Reg. No. 38,292

Inventors: Pfaff, et al. Telephone: (503) 227-5631

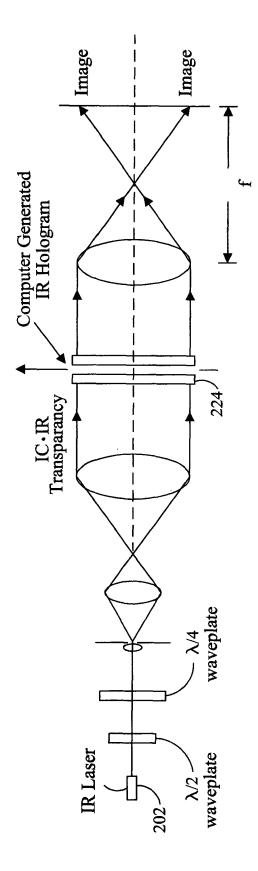


FIG. 38

Drawings - Sheet 30 of 35 3883.0005 Invention: VOLTAGE TESTING AND MEASUREMENT

Filed:

Concurrently herewith Attorney:

Kevin L. Russell, Reg. No. 38,292

Inventors:

Pfaff, et al.

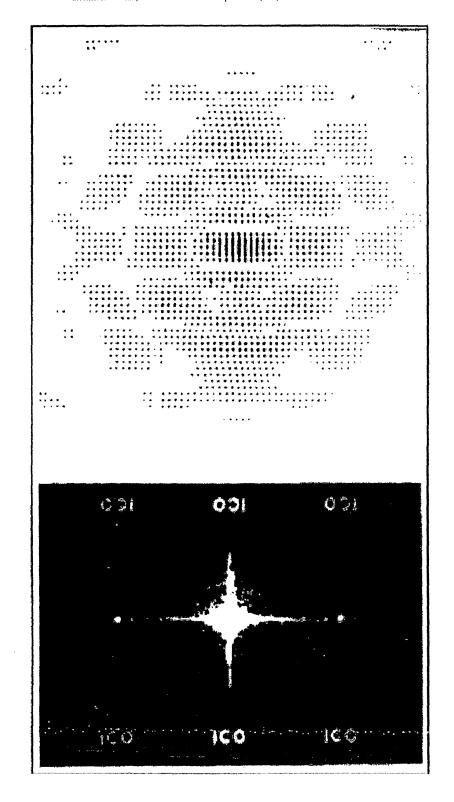


FIG. 39

Drawings - Sheet 31 of 35 3883.0005 Invention: VOLTAGE TESTING AND MEASUREMENT

Filed:

Concurrently herewith Attorney: Kevin L. Russell, Reg. No. 38,292

Inventors:

Pfaff, et al.

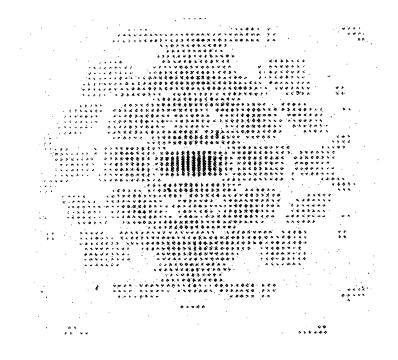


FIG. 40A

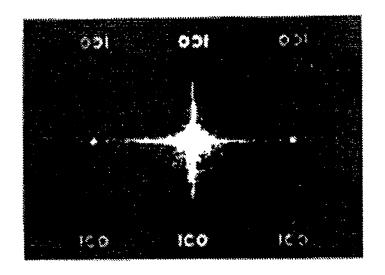


FIG. 40B

Drawings - Sheet 32 of 35 3883.0005 Invention: VOLTAGE TESTING AND MEASUREMENT

Filed:

Concurrently herewith Attorney: Kevin L. Russell, Reg. No. 38,292
Pfaff, et al. Telephone: (503) 227-5631

Inventors:

Pfaff, et al.

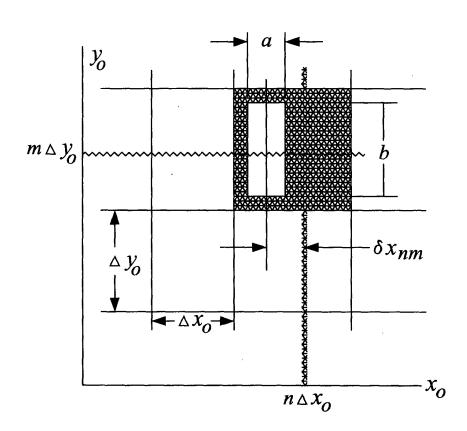


FIG. 40C

Drawings - Sheet 33 of 35 3883.0005 Invention: VOLTAGE TESTING AND MEASUREMENT

Filed:

Concurrently herewith Attorney: Kevin L. Russell, Reg. No. 38,292

Telephone: (503) 227-5631 Inventors: Pfaff, et al.

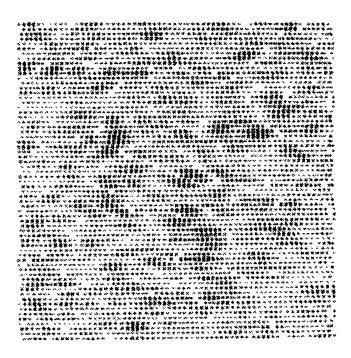


FIG. 41A

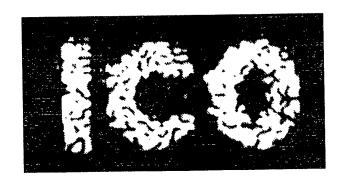


FIG. 41B

Drawings - Sheet 34 of 35 3883.0005 Invention: VOLTAGE TESTING AND MEASUREMENT

Kevin L. Russell, Reg. No. 38,292

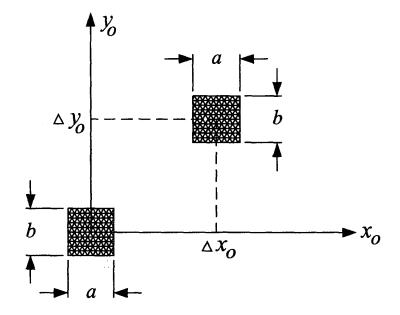
Concurrently herewith Attorney:

Filed:

Inventors: Pfaff, et al. Telephone: (503) 227-5631

Illustration showing arrangement of generalized Gunary detour-phase IR Hologram

FIG. 42



IR Diffracton at a Rectangular Aperture

FIG. 43

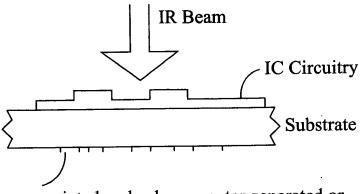
Drawings - Sheet 34 of 35 3883.0005 Invention: VOLTAGE TESTING AND MEASUREMENT

Filed: Concurrently herewith Attorney:

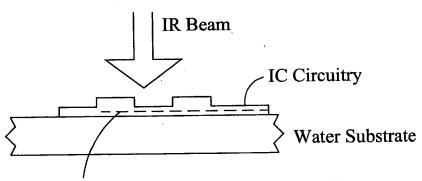
Kevin L. Russell, Reg. No. 38,292

Inventors:

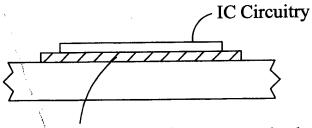
Telephone: (503) 227-5631



IR Hologram printed on back, computer generated or directly exposed for testing of IC functionality



HOE - IR Holographic Optical Element built directly into IC's circuitry gives optimal interferogram if IC lithography and operating voltage parameters are okay. Can also be set up to detect failure conditions or other operations.



IR computer generated Hologram can also be ion-beam etched/implanted into wafer substrate.

FIG. 44